

# Notice of Allowability

Application No.

10/518,169

Examiner

David A. Reifsnyder

Applicant(s)

APPLEFORD ET AL.

Art Unit

1723

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication filed on December 15, 2004.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 12/15/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### REASONS FOR ALLOWANCE

The main reason for the allowance of all claims 1-7 is the instantly claimed underwater hydrocarbon reservoir water injection system for removing particulates from water, comprising: separating means for removing particulates from water; and pumping means downstream from said separating means for drawing surrounding water upstream of said separating means into said separating means; wherein said system is incorporated into a retrievable module for use with a modular seabed processing system; wherein said separating means comprises dynamic separating means comprising a hydrocyclone; and wherein said system further comprises means for collecting particulates separated from said water by said dynamic separating means, means for removing collected particulates from said particulate collecting means; and **means for directing at least some of the at least substantially particulate free water from said dynamic separating means to said particulate removal means to enable said particulate removal means to remove collected particulates and eject them into water surrounding the module.** The closest prior art of record (i.e. WO 01/20121 A1) discloses a system (100) comprising separating means (130) for removing particulates from water; and pumping means (144) downstream from said separating means for drawing surrounding water upstream of said separating means into said separating means; wherein said separating means comprises dynamic separating means comprising a hydrocyclone (page 4, line 3); and wherein said system further comprises means (136) for collecting particulates separated from said water by said dynamic separating means, means (140) for removing collected particulates from

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said particulate collecting means. Furthermore, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have incorporated the system into a retrievable module. However the closest prior art of record (i.e. WO 01/20121 A1) fails to disclose or fairly suggest the **means for directing at least some of the at least substantially particulate free water from said dynamic separating means to said particulate removal means to enable said particulate removal means to remove collected particulates and eject them into water surrounding the module.**

The main reason for the allowance of claims 8-9 is the instantly claimed underwater method for removing particulates from water and injecting the resulting water into a hydrocarbon reservoir, comprising the steps of: pumping water downstream of separating means to draw surrounding water upstream of the separating means into the separating means; and separating particulates from the water in the separating means and injecting the resulting water into a hydrocarbon reservoir; wherein the separation occurs in a retrievable module for use with a modular seabed processing system, the particulates are separated from the water in dynamic separating means comprising a hydrocyclone and collected in a collecting means, then removed from the collecting means by particulate removal means **to which at least some substantially particulate free water from the dynamic separating means is directed to enable the particulate removal means to remove collected particulates and eject them into water surrounding the module.** The closest prior art of record (i.e. WO

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01/87453 A) discloses a method comprising the steps of pumping water downstream of separating means (130) to draw surrounding water upstream of the separating means into the separating means; and separating particulates from the water in the separating means and injecting the resulting water into a hydrocarbon reservoir; the particulates are separated from the water in dynamic separating means comprising a hydrocyclone (page 4, line 3) and collected in a collecting means (136), then removed from the collecting means by particulate removal means (140). Furthermore, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention for the separation to have occurred in a retrievable module. However the closest prior art of record (i.e. WO 01/87453 A) fails to disclose or fairly suggest the step of directing the substantially particulate free water from the dynamic separating means to the particulate removal means to enable the particulate removal means to remove collected particulates and eject them into water surrounding the module.

### ***Drawings***

The formal drawings filed on December 15, 29004 are approved by the Examiner.

### ***Conclusion***

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably


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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Reifsnyder whose telephone number is (571) 272-1145. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
David A Reifsnyder  
Primary Examiner  
Art Unit 1723

DAR